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Use of Slide In-Situ Hybridization to Determine *PAX9* Gene Expression in *Moenkhausia* *Sanctaefilomenae*

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Poster Presentation P16

**USE OF SLIDE IN-SITU HYBRIDIZATION TO DETERMINE *PAX9* GENE
EXPRESSION IN *MOENKHAUSIA SANCTAEFILOMENAE***

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Pax9 is a paired box transcription factor with essential roles in embryonic development of the skeleton, teeth, thymus and parathyroid regions of the embryo. Our lab has previously cloned *Pax9* from the red eye tetra, *Moenkhausia sanctaefilomenae* and expression analysis during early embryonic development demonstrated that *Pax9* is expressed in the pharyngeal region of the craniofacial skeleton, vertebral somites and tail region. This project examines expression of *Pax9* in larval fish using a technique known as slide in-situ hybridization. This technique allows for detection of *Pax9* transcripts in older specimens, an outcome typically unattainable via whole mount in-situ techniques. *Collagen type II alpha 1 (Col2a1)* was also examined as a control for this technique. Results showed that *Col2a1* is expressed in the basioccipital cartilage and the chondocranium cartilage while *pax9* is expressed in the tissues of the pancreas and liver of the embryo. The success of this slide in-situ technique allows for further examination of later development in fish while possibly using other genes as well.